

**Bone markers CTX and osteocalcin assessment in
postmenopausal women with osteoporosis on alendronate
treatment**

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Background. Postmenopausal is characterized with reduced bone formation, increased bone resorption, consecutive bone loss and osteoporosis development.

Methods. Basal serum levels of bone formation marker osteocalcin (OC) and bone resorption marker CTX and their levels after 3, 6 and 12 months of 70mg alendronate treatment (AT) were determined with electrochemiluminescence method, automatic imunoanalyser Roche Elecsys 2010. Postmenopausal women (n=100) with osteoporosis, diagnosed with DEXA bone density measurement, with mean age (59.35±5yr.), menopause duration (11.65±6.3yr.) were studied.

Results. CTX values after 3 months AT (0.2±0.12ng/ml) are lower compared to the basal levels (0.48±0.12ng/ml)(p<0.0001), but higher compared to 6 months (0.12±0.06ng/ml)(p<0.003), and 12 months AT (0.09±0.07ng/ml)(p<0.0001). CTX levels after 6 month AT are lower compared to basal levels (p<0.0001), and 3 months AT (p<0.003), but were not significantly different compared to 12 months AT (p>0.05). OC levels after 3 months AT (18.71±5.95ng/ml) are lower compared to basal levels (26.52±8.63ng/ml)(p<0.001), but not significantly higher compared to 6 months (15.49±5.18ng/ml)(p<0.019), and 12 months AT (13.23±3.86ng/ml)(p<0.0001). OC levels after 6 months are lower than basal levels (p<0.0001), and compared to 3 months AT (p<0.019), but are not significantly different compared to 12 months AT (p>0.05).

Conclusions. AT enabled progressive and significant reduction of CTX and OC level after 3, 6 and 12 months, but after 6 to 12 months the reduction is not significant. Optimal antiresorptive effect is achieved after 6 months of AT and it is persistent after 12 months of AT.